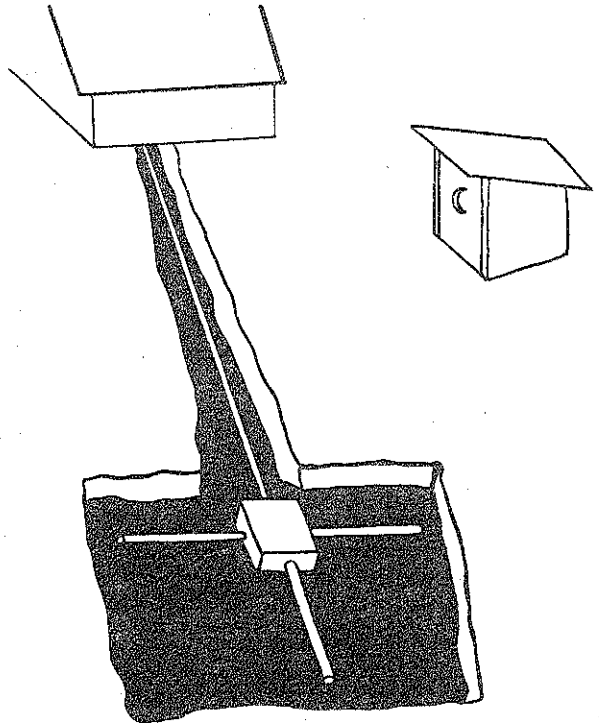
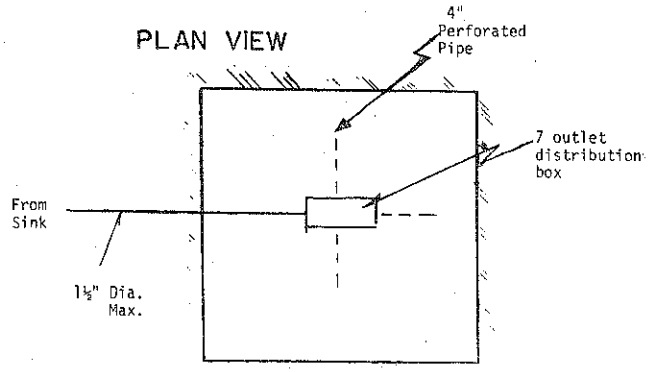
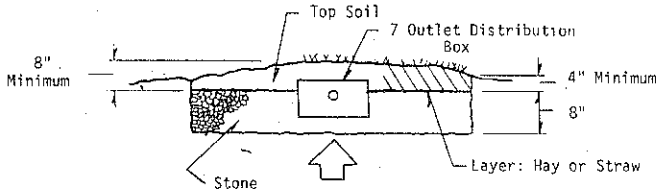
SPECIAL Sec.9.10







CROSS SECTION

2 Feet minimum above the Seasonal High Water Table, Bedrock and Impervious layers.

SINGLE FAMILY DWELLINGS

sec.9.10a

These separated facilities shall only be approved when the building they serve has no running water supplied to it through a service supply line or if running water is supplied to the building, the movement of water is generated by gravity flow or a pump powered by the human hand. A gravity flow situation shall not include the circumstances where water is first lifted by a means other than by natural artesian flow or by a pump powered by the human hand.

Refer to Chapter 9, Table 9-1 to determine when site conditions permit installations of these facilities. THE APPROVABLE GRAY WASTE WATER SYSTEM SHOWN BELOW IS DESIGNED TO HANDLE SINK WASTES ONLY. OTHER PLUMBING FIXTURES SHALL NOT BE CONNECTED TO IT.

sec.9.10b HUMAN WASTE FACILITES

APPROVABLE HUMAN WASTE FACILITY

Approvable human waste facilities shall be one of the following

Privies - Vault or pit depending on soil conditions
Compost toilets
Chemical toilets
Incinerator toilets

sec.9.10c GRAY WASTE WATER FACILITIES

APPROVABLE SINK GRAY WASTE WATER FACILITY

Human Waste Facilities shall NOT be connected to the Gray Waste Water System.

The Building Sewer shall be 1½ inches maximum diameter.

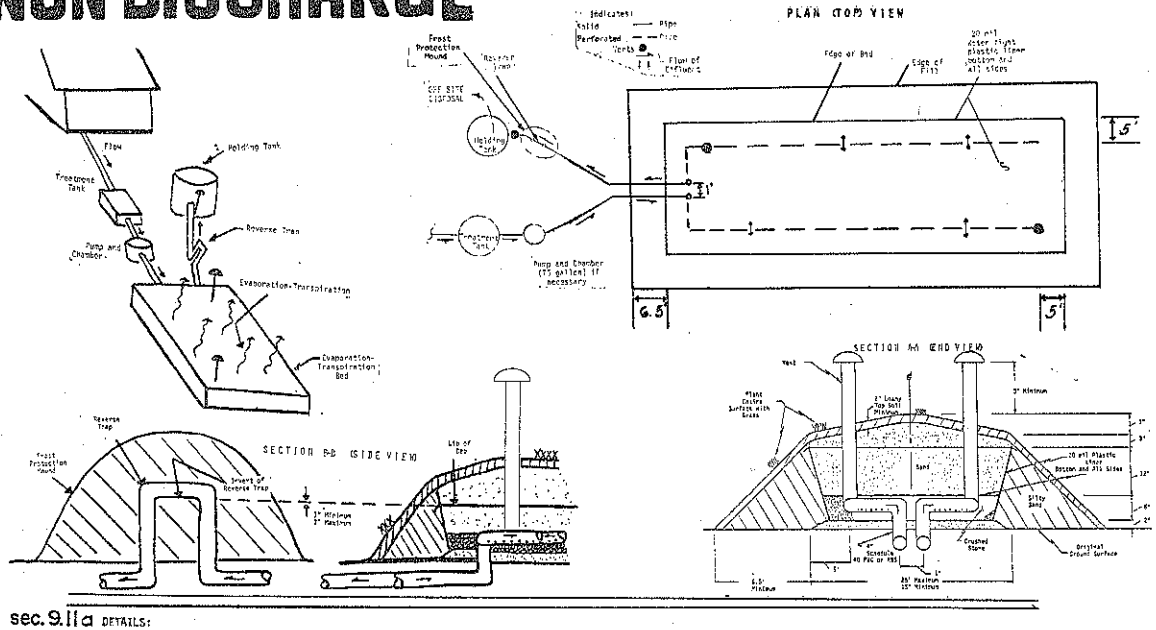
SINGLE FAMILY DWELLINGS

SYSTEM SIZE RATING	SINK DRAIN DISPOSAL BEDS	MINIMUM DEPTH TO HIGHEST WATER TABLE, BEDROCK AND IMPERVIOUS LAYER
Very Small	5 feet X 5 feet	2 feet
Small	6 feet X 6 feet	2 feet
Medium	8 feet X 8 feet	2 feet
Medium Large	9 feet X 9 feet	2 feet
Large	11 feet X 11 feet	2 feet
Extra Large	13 feet X 13 feet	2 feet

sec.9.10d SERVING OTHER FACILITIES

Not permitted without review and written approval by the department.

NON DISCHARGE Sec.9.11



sec.9.11a DETAILS:

SYSTEM ARRANGEMENT - The non-discharge system shall consist of a series arrangement of treatment tank, total evaporation-transpiration bed, and overflow holding tank; the order of arrangement shall be as listed above; serial flow from the bed to the holding tank shall be provided.

LOCATION - The evaporation-transpiration bed shall be considered a subsurface absorption area for purposes of location; the holding tank shall be considered a treatment tank for purposes of location; see Table 4-2.

WATER REDUCTION - When a non-discharge system is used for disposal, plumbing connected to it shall have the following restrictions: (1) Water service to showers and bathtubs shall have flow reducing valves (maximum flow rate 2 gallons per minute), (2) Water service to sinks and lavatories shall have aerators, (3) Garbage disposals shall not be connected, (4) It is recommended that automatic washers not be installed.

SERIAL FLOW - If a pump and chamber are not needed to lift sewage from the treatment tank to the bed, the invert of the outlet of the treatment tank shall be at least 4 inches above the top of the sand layer in the evaporation-transpiration bed; the invert of the reverse trap shall be 1 to 3 inches below the top lip of the bed; the invert of the inlet to the holding tank shall be below the invert of the reverse trap.

ALARM - An alarm sensing device shall be provided on the holding tank. The sensing device shall be set and installed as required in Section 7.6.

HOLDING TANK - Holding tanks shall be protected to prevent their contents from freezing, and to prevent flotation by weighting down or other adequate measures acceptable to the Department and/or its agent if installed fully or partially below grade.

PLANTINGS - The surface of the bed and a 5 and 1/2 foot border around it shall be planted with grass.

BED LINING - The evaporation-transpiration bed shall be totally sealed to prevent infiltration of effluent into the soil under and around it. Sealing shall be accomplished by an impervious plastic sheet (20 mil, minimum thickness). The top impermeable edge of the bed walls shall be at least 4 inches above the seasonal high water table and 4 inches above the surface of any water which ponds.

BED POSITION - The Bed shall be constructed and placed fully above the existing ground surface (grade).

SINGLE FAMILY DWELLINGS

sec.9.11b COMBINED SYSTEMS
All waste water: human waste & gray waste water

COMBINED SYSTEM

This system is for the disposal of all wastewater, both black water and gray waste water, from single family dwellings with 1-5 bedrooms.

SYSTEM ARRANGEMENT

The combined, non-discharge system shall consist of a treatment tank followed by an evapo-transpiration bed, 2500 square feet. The treatment tank shall be sized per Sections 7.2 and 7.3.

If the property configuration prohibits installation of one 25 X 100 bed, several smaller beds equal to 2500 square feet may be approved. If these beds are at different levels, series serial distribution shall be provided, and the lowest bed shall be connected to the holding tank.

HOLDING TANK

A holding tank shall follow the evapo-transpiration bed. The capacity of the holding tank shall be 2000 gallons minimum; recommended size is 4000 gallons.

When this combined non-discharge system is installed, flush toilets may be installed but the toilets used shall be low flush models (maximum flush volume shall be 3 gallons).

sec.9.11c SEPARATED SYSTEM
Human waste handled by methods permitted in sec. 9.13 thru 9.15

This system to handle gray waste water only.

SEPARATED SYSTEM

This system is for the disposal of only gray wastewater from single family dwellings with 1-5 bedrooms. The human wastes shall be handled by sealed vault privy, compost toilet, chemical toilet, incinerator toilet, recirculating toilet, or vacuum toilet. This waste, once processed, may be discharged into the treatment tank or holding tank.

SYSTEM ARRANGEMENT

The separated, non-discharge system shall consist of a treatment tank followed by an evapo-transpiration bed, 1875 square feet. The treatment tank shall be 750 gallon minimum.

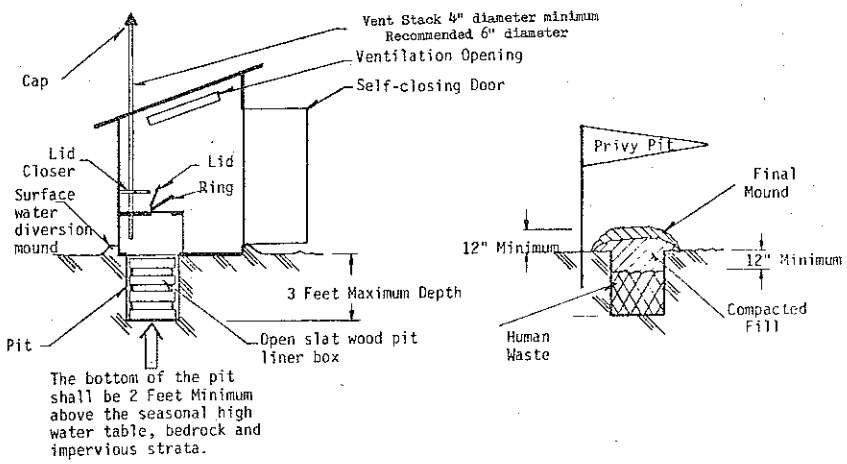
If the property configuration prohibits installation of one 25 X 75' bed, several smaller beds equal to 1875 square feet may be approved. If these beds are at different levels, series serial distribution shall be provided, and the lowest bed shall be connected to the holding tank.

HOLDING TANK

A holding tank shall follow the evapo-transpiration bed. The capacity of the holding tank shall be 1500 gallons minimum; recommended size is 3000 gallons.

sec.9.11d SERVING OTHER FACILITIES
Not permitted

SEC. 9.12 OPEN PIT PRIVY



REQUIREMENTS:

Open pit privies shall not be installed on flood plains nor on sites where the seasonal high water table, bedrock or impervious layer is less than 15" below the bottom of the organic horizon (0). On sites where the seasonal high water table, bedrock, or impervious layer is more than 15" but less than 60" below the bottom of the organic horizon (0), the privy pit shall be made in suitable fill. Open pit privies shall not be installed to serve structures other than single family dwellings without written approval by the Department.

(a) Open pit privy shall be classified as disposal areas for purposes of location except as noted below. Refer to Table 4-2 to determine where disposal areas may be located. Pits shall not be located less than 20 feet from a dwelling or property line.

(b) Pits shall not be deeper than 3 feet below original grade. The bottom of the pit shall be at least two feet above highest seasonal groundwater level, impervious strata and bedrock.

(c) Pits shall be air tight except for the vent stack and the waste entry hole.

(d) The area around the privy building and pit shall be banked to divert surface waters away. The drip line of the privy's roof shall extend outside the diversion bank.

(e) The waste entry hole shall have a self-closing lid and a ring seat.

(f) A vent stack of at least 4" diameter shall be: provided, extend into the seat box and at least 2 feet above the roof's highest point. The vent stack shall be capped to prevent entry of precipitation and effectively supported and rigid.

(g) The privy building shall have: ventilating and a self-closing door, and be effectively sealed against entry of vermin.

(h) Open pit privies shall be maintained in a sanitary condition.

(e) Vaults shall be classed as septic tanks for structural requirements. Refer to Section 7.1 If commercial septic tanks or holding tanks are used as vaults, influent and/or effluent ports shall be sealed watertight.

PRIVY BUILDING AND APPURTENANCES:

(f) The waste entry hole shall have: a self-closing lid and ring seat, and smooth cylindrical chute extending from the seat into the vault two (2) inches. The chute should have a baffle at its bottom which effectively prevents splash-back.

(g) The privy building shall have: ventilation, a self-closing door, a vault vent and be effectively sealed against entry of vermin. The vault vent shall: be a four (4) inch minimum diameter, extend two (2) inches below the bottom of chute and two (2) feet above the highest point of the roof, be capped against entry of precipitation and be effectively supported and rigid.

MAINTENANCE:

(h) Sealed vault privies shall be maintained in a sanitary and operable condition.

(i) Wastes, other than human -- feces and urine, and toilet paper, shall not be disposed of in privy vaults.

(j) When waste fills the vault to a height not less than one (1) foot below the vault top, the vault shall be emptied. The person who empties the vault, the methods employed, and the destination of the waste shall be as required by the Department of Environmental Protection.

SEC. 9.14 COMPOST TOILET UNITS

(a) **REQUIREMENTS** -- Compost units shall be approvable for the disposal of only human wastes, urine and feces; toilet paper; and putricable kitchen wastes. They may be used in systems referred to in Sections 9.6-9.11. Compost toilets may be located in buildings.

(b) **DESCRIPTION** -- Compost units are prefabricated versions of modified vault privies utilizing aerobic composting for waste treatment.

(c) **APPROVED UNITS** -- The LPI's have lists of these units.

SEC. 9.15 INCINERATING, CHEMICAL, RECIRCULATING, AND VACUUM TOILETS

(a) **REQUIREMENTS** — Incinerating, chemical, recirculating, and vacuum toilets shall be approvable for the disposal of only human wastes, urine and feces, and toilet paper. They may be used in systems referred to in Sections 9.6 - 9.11.

(b) **DESCRIPTION** —

(1) Incinerating toilets are totally independent units which dispose of wastes by heating them to combustion. They are generally electric or gas powered.

(2) Chemical and recirculating toilets treat wastes with chemicals and water. After a period of recycling, the treated wastes, water and chemicals must be discharged to a suitable destination. The destination shall be a holding tank, or other approved

disposal system. After discharge they have to be recharged with water and chemicals.

(3) Vacuum toilets handle wastes in a manner similar to standard toilets. However, they use very little water because the flush cycle is vacuum assisted. Vacuum toilets shall be connected to holding tanks or other approved disposal systems.

(c) **APPROVED UNITS** — The LPI's have lists of these units.

CHAPTER 10

OTHER SYSTEMS

SEC. 10.1 LAGOON TREATMENT AND SPRAY DISPOSAL SYSTEMS

The use of lagoons for sewage treatment and spray techniques for disposal may be permitted by the Department upon submission of adequate information for review. Adequate information shall include sufficient information to indicate site suitability and the system's adequacy. Site suitability shall be determined by an on-site soils investigation and supported by a report from a certified Soils Scientist, Geologist or Registered Professional Engineer. Plans and specifications for lagoons and/or spray disposal systems shall be designed by a Registered Professional Engineer. Requirements for these systems can be obtained by contacting the Department.

Lagoon treatment and spray disposal systems are to be considered community systems for permit fee purposes. Local Plumbing Inspectors shall not issue permits, or approve these systems until written approval is given by the Department.

SEC. 10.2 INDUSTRIAL WASTES

The use of private sewage disposal systems for the treatment and disposal of industrial wastes may be permitted by the Depaprtment upon submission of adequate information for review. Adequate information shall include sufficient information to indicate—the manufacturing process involved, the character of the waste, the volume of the waste, the treatment proposed (including its efficiency), and the site's suitability for disposal. Site suitability shall be determined by an on-site soils investigation and supported by a report from a Certified Soils Scientist or Geologist, or Registered Professional Engineer with soils training. Complete plans and specifications for private disposal systems handling industrial wastes shall be designed by a Registered Professional Engineer. Consultation with the Department is recommended before submission of plans and specifications.

Private sewage disposal systems handling industrial wastes are to be considered community systems for permit fee purposes. Local Plumbing Inspectors shall not issue permits, or approve such systems until written approval is given by the Department.

SEC. 10.3 OTHER SYSTEMS, DEVICES, AND TECHNIQUES

Other sewage treatment and disposal systems, devices and techniques may be approved and employed when permitted in writing by the Department. Approval of such methods shall be based upon complete plans, specifications, and/or data as may be required by the Department. Local Plumbing Inspectors shall not issue permits for systems other than those detailed and described in this Code without first having received written approval of the Department regarding such systems.

APPENDIX I

A GUIDE FOR MINIMUM LOT SIZE DETERMINATION FOR SINGLE FAMILY DWELLINGS WHEN ON-SITE WASTE DISPOSAL IS REQUIRED

NOTES FOR USER:

This guide has been prepared to provide assistance to planners, planning boards, and others involved in land use. The information is intended to be useful in general land use planning only.

The lot size recommendations are based on soil characteristics relative to on-site sewage disposal systems and to environmental considerations.

NOT FEASIBLE is a term used to indicate that extreme site conditions exist which warrant additional investigation and engineering design criteria for use. Corrective measures may not be economically feasible.

NOT PERMITTED is a term used on certain soils to indicate that those soils should not be used for urban development or for waste disposal.

The lot sizes recommended in this appendix should be considered as minimums. In cases where large parcels of land are totally covered with residential lots, such as large subdivisions, larger minimum lot sizes may be necessary and desireable. The reason for this is, that on-site sewage disposal systems in large scale subdivisions may so saturate the ground water with effluent that if on-site well supplies are used, the wells may be affected.

A GUIDE FOR MINIMUM LOT SIZE DETERMINATION FOR SINGLE FAMILY DWELLINGS WHEN ON-SITE WASTE DISPOSAL IS REQUIRED

Soils and Land Types	Slope Groups	Lot Size in Square Feet
Adams [1]	0 - 15%	40,000
"	15 - 25%	40,000*
"	25%	Not Feasible
Agawam [1]	0 - 15%	40,000
"	15 - 25%	40,000*
"	25%	Not Feasible
Allagash [1]	0 - 15%	40,000
"	15 - 25%	40,000*
"	25%	Not Feasible
Alluvial soil		Not Permitted
Atherton		Not Feasible
AuGres		Not Feasible
Bangor	0 - 15%	25,000
"	15 - 25%	30,000*
"	25%	Not Feasible
Bangor moderately deep	0 - 15%	30,000
" " "	15 - 25%	35,000*
" " "	25%	Not Feasible
Bangor heavy substratum	0 - 15%	25,000
" " "	15 - 25%	30,000*
" " "	25%	Not Feasible
Beaches, All	On-site Investigation Required	
Becket	0 - 15%	30,000
"	15 - 25%	35,000*
"	25%	Not Feasible
Belgrade	0 - 15%	30,000
Benson [2]	0 - 15%	40,000
"	15 - 25%	40,000*
Berkshire	0 - 15%	25,000
"	15 - 25%	30,000*
"	25%	Not Feasible
Biddeford		Not Feasible
Burnham	0 - 15%	Not Feasible
Buxton	0 - 15%	35,000
Canaan	0 - 15%	25,000
"	15 - 25%	30,000*
"	25%	Not Feasible
Canandaigua		Not Feasible

Soils and Land Types	Slope Groups	Lot Size in Square Feet
Canton	0 - 15%	20,000
"	15 - 25%	25,000*
Caribou	0 - 15%	25,000
"	15 - 25%	30,000*
"	25%	Not Feasible
Charlton	0 - 15%	20,000
"	15 - 25%	25,000*
"	25%	Not Feasible
Colton [1]	0 - 15%	40,000
"	15 - 25%	40,000*
"	25%	Not Feasible
Conant	0 - 15%	30,000
Crary	0 - 15%	30,000
Croghan [3]	0 - 15%	80,000
Cut & fill land	On-site Investigation Required	
Daigle		35,000
Deerfield [3]	0 - 15%	80,000
Dixmont	0 - 15%	30,000
"	15 - 25%	35,000*
Duane [3]	0 - 15%	80,000
Dune land, All	On-site Investigation Required	
Easton		Not Feasible
Elmwood	0 - 15%	35,000
Fibrists and Hemists soils		Not Permitted
Fibrists and Saprists soils		Not Permitted
Fredon		Not Feasible
Fresh Water Marsh		Not Permitted
Gloucester	0 - 15%	20,000
"	15 - 25%	25,000*
Gravel pits	On-site Investigation Required	
Hadley		Not Permitted
Halsey		Not Feasible
Hartland	0 - 15%	30,000
"	15 - 25%	35,000*
Hermon	0 - 15%	20,000
"	15 - 25%	25,000*
"	25%	Not Feasible
Hinckley [1]	0 - 15%	40,000
"	15 - 25%	40,000*
"	25%	Not Feasible

Soils and Land Types	Slope Groups	Lot Size in Square Feet
Hiram mucky peat		Not Permitted
Hollis, All	0 - 15%	30,000
" "	15 - 25%	35,000*
" "	25%	Not Feasible
Howland	0 - 15%	35,000
"	15 - 25%	40,000*
Leicester		Not Feasible
Limerick		Not Permitted
Linneus [2]	0 - 15%	40,000
"	15 - 25%	40,000*
"	25%	Not Feasible
Lyman, All	0 - 15%	30,000
"	15 - 25%	35,000*
" "	25%	Not Feasible
Machias [3]	0 - 15%	80,000
Madawaska [3]	0 - 15%	80,000
Made land, All	On-site Investigation Required	
Mapleton [2]	0 - 15%	40,000
"	15 - 25%	40,000*
"	25%	Not Feasible
Marlow	0 - 15%	30,000
"	15 - 25%	35,000*
"	25%	Not Feasible
Melrose	0 - 15%	35,000
"	15 - 25%	40,000*
Merrimac [1]	0 - 15%	40,000
"	15 - 25%	40,000*
Monarda		Not Feasible
Muck & peat, All		Not Permitted
Nicholville	0 - 15%	30,000
Ninigret [3]	0 - 15%	80,000
Ondawa		Not Permitted
Paxton	0 - 15%	30,000
"	15 - 25%	35,000*
"	25%	Not Feasible
Peat, All		Not Permitted
Peat & muck, All		Not Permitted
Perham	0 - 15%	30,000
"	15 - 25%	35,000*
Peru	0 - 15%	35,000

Soils and Land Types	Slope Groups	Lot Size in Square Feet
Plaisted	0 - 15%	30,000
"	15 - 25%	35,000*
"	25%	Not Feasible
Podunk		Not Permitted
Potsdam	0 - 15%	30,000
Raynham		Not Feasible
Red Hook		Not Feasible
Ridgebury		Not Feasible
Rifle mucky peat		Not Permitted
River wash	On-site Investigation Required	
Rock land, All		Not Feasible
Rock outcrop		Not Permitted
Rubble land		Not Feasible
Rumney		Not Permitted
Saco		Not Permitted
Salmon	0 - 15%	30,000
Saprists and Hemists soils		Not Permitted
Saugatuck		Not Feasible
Scantic		Not Feasible
Scarboro		Not Feasible
Sebago mucky peat		Not Permitted
Skerry	0 - 15%	35,000
Skowhegan [3]	0 - 15%	80,000
Stetson [1]	0 - 15%	40,000
"	15 - 25%	40,000*
"	25%	Not Feasible
Stony land, All	On-site Investigation Required	
Sudbury [3]	0 - 15%	80,000
Suffield	0 - 15%	35,000
Suncook		Not Permitted
Sutton	0 - 15%	30,000
Swanton		Not Feasible
Terric Borohemists soils		Not Permitted
Terric Borasaprists soils		Not Permitted
Thorndike, All [2]	0 - 15%	40,000
" "	15 - 25%	40,000*
" "	25%	Not Feasible
Tidal marsh		Not Permitted

Soils and Land Types	Slope Groups	Lot Size in Square Feet
Togus fibrous peat		Not Permitted
Typic Sphagnofibrists soils		Not Permitted
Typic Sulfihemists soils		Not Permitted
Walpole		Not Feasible
Washburn		Not Feasible
Waumbek	0 - 15%	25,000
Whately		Not Feasible
Whitman		Not Feasible
Windsor[1]	0 - 15%	40,000
"	15 - 25%	40,000*
"	25%	Not Feasible
Winooski		Not Permitted
Woodbridge	0 - 15%	35,000

* Special engineering and design of facilities are required due to excessive slope conditions.

1 These soils are very rapidly permeable and offer the potential for ground water contamination when wastes are placed on or in them. They are also recognized as areas of ground water recharge, and consideration should be given to their protection.

2 These soils commonly overlie vertically fractured and limestone-seamed bedrock which may be rapidly permeable and subject to piping. Such conditions offer potential for ground water contamination from waste disposal systems.

3 These soils are similar to those in footnote 1 above, except that a water table normally exists within the upper 30 inches of the soil. Use of such soils for waste disposal may be undesirable due to the likelihood of ground water contamination.